

CLAIMS

What is claimed is:

1. A method for creating a query for a database, wherein the method automatically prevents inclusion of an unnecessary table join in the query.

2. The method of claim 1 comprising:

determining whether a SQL template has a FROM clause placeholder and
determining whether a FROM clause table has been previously specified in the SQL
template;

responsive to the determination that the SQL template has the FROM clause
placeholder and that the FROM clause table has not been previously specified in the SQL
template, generating a FROM clause for the table;

determining whether the SQL template has a JOIN clause placeholder and
determining whether the FROM clause has been added; and

responsive to the determination that the SQL template has the JOIN clause
placeholder and that the FROM clause has been added, generating a JOIN clause.

3. The method of claim 2 further comprising:

responsive to the determination that the SQL template has the FROM clause
placeholder and that the FROM clause table has not been previously specified in the SQL
template, adding the FROM clause to a FROM clause string; and

responsive to the determination that the SQL template has the JOIN clause
placeholder and that the FROM clause has not been added, adding the JOIN clause to a JOIN
clause string.

4. The method of claim 2 further comprising:

generating a (join) WHERE clause;
adding the (join) WHERE clause to a (join) WHERE clause string;
adding an alias to an added aliases list; and
adding an optional where clause alias to an optional where clause aliases list.

5. The method of claim 2 further comprising:

determining if a plurality of parameters are on the added aliases list; and
responsive to the determination that the parameters are not on the added aliases list,
performing the steps in claim 2.

6. The method of claim 5 further comprising:

generating a SELECT clause;
generating a (filter) WHERE clause; and
generating an ORDER BY clause.

7. The method of claim 5 further comprising:

responsive to the determination that all of the parameters have been analyzed,
determining whether the optional where clause alias is on the added aliases list;
responsive to the determination that the optional where clause alias is on the added
aliases list, generating the (join) WHERE clause for the optional where clause alias; and
responsive to the determination that the optional where clause alias is on the added
aliases list, adding the (join) WHERE clause to the (join) WHERE clause string.

8. The method of claim 5 further comprising:

replacing the FROM clause placeholder in the SQL template with the FROM clause
string;

replacing the JOIN clause placeholder in the SQL template with the JOIN clause string; and

adding the (join) WHERE clause string to the (filter) WHERE clauses in the SQL template.

9. The method of claim 5 further comprising:

accepting a user submission of a field and a filter;

sending the query to the database; and

obtaining an output from the database.

10. A method for creating a query for a database, wherein the method automatically prevents inclusion of an unnecessary table join in the query, the method comprising:

determining if a plurality of parameters are on an added aliases list;

responsive to the determination that the parameters are not on the added aliases list,

running a clause generation program;

determining if all of the parameters have been analyzed;

responsive to the determination that all of the parameters have been analyzed,

determining whether an optional where clause alias is on the added aliases list;

responsive to the determination that the optional where clause alias is on the added aliases list, generating a (join) WHERE clause for the optional where clause alias; and

responsive to the determination that the optional where clause alias is on the added aliases list, adding the (join) WHERE clause to a (join) WHERE clause string.

11. The method of claim 10 wherein the clause generation program comprises:

determining whether a SQL template has a FROM clause placeholder and
determining whether a FROM clause table has been previously specified in the SQL
template;

responsive to the determination that the SQL template has the FROM clause
placeholder and that the FROM clause table has not been previously specified in the SQL
template, generating a FROM clause for the table;

determining whether the SQL template has a JOIN clause placeholder and
determining whether the FROM clause has been added; and

responsive to the determination that the SQL template has the JOIN clause
placeholder and that the FROM clause has not been added, generating a JOIN clause.

12. The method of claim 11 wherein the clause generation program further comprises:

responsive to the determination that the SQL template has the FROM clause
placeholder and that the FROM clause table has not been previously specified in the SQL
template, adding the FROM clause to a FROM clause string; and

responsive to the determination that the SQL template has the JOIN clause
placeholder and that the FROM clause has not been added, adding the JOIN clause to a JOIN
clause string.

13. The method of claim 11 wherein the clause generation program further comprises:

generating the (join) WHERE clause;

adding the (join) WHERE clause to the (join) WHERE clause string;

adding an alias to the added aliases list; and

adding the optional where clause alias to an optional where clause aliases list.

14. The method of claim 10 further comprising:

generating a SELECT clause;
generating a (filter) WHERE clause; and
generating an ORDER BY clause.

15. The method of claim 10 further comprising:

replacing the FROM clause placeholder in the SQL template with the FROM clause string;
replacing the JOIN clause placeholder in the SQL template with the JOIN clause string; and
adding the (join) WHERE clause string to the (filter) WHERE clauses in the SQL template.

16. The method of claim 10 further comprising:

accepting a user submission of a field and a filter;
sending the query to the database; and
obtaining an output from the database.

17. A program product operable on a computer, the program product comprising:

a computer-usable medium;
wherein the computer usable medium comprises instructions comprising:
instructions for determining whether a SQL template has a FROM clause placeholder and determining whether a FROM clause table has been previously specified in the SQL template;

responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, instructions for generating a FROM clause for the table;

instructions for determining whether the SQL template has a JOIN clause placeholder and determining whether the FROM clause has been added; and

responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has not been added, instructions for generating a JOIN clause.

18. The program product of claim 17 further comprising:

responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, instructions for adding the FROM clause to a FROM clause string; and

responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has not been added, instructions for adding the JOIN clause to a JOIN clause string.

19. The program product of claim 17 further comprising:

instructions for generating a (join) WHERE clause;

instructions for adding the (join) WHERE clause to a (join) WHERE clause string;

instructions for adding an alias to an added aliases list; and

instructions for adding an optional where clause alias to an optional where clause aliases list.

20. The program product of claim 17 further comprising:

instructions for determining if a plurality of parameters are on the added aliases list;
and

responsive to the determination that the parameters are not on the added aliases list,
instructions for performing the steps in claim 17.

21. The program product of claim 20 further comprising:

instructions for generating a SELECT clause;
instructions for generating a (filter) WHERE clause; and
instructions for generating an ORDER BY clause.

22. The program product of claim 20 further comprising:

responsive to the determination that all of the parameters have not been analyzed,
instructions for determining whether the optional where clause alias is on the added aliases
list;

responsive to the determination that the optional where clause alias is on the added
aliases list, instructions for generating the (join) WHERE clause for the optional where
clause alias; and

responsive to the determination that the optional where clause alias is on the added
aliases list, instructions for adding the (join) WHERE clause to the (join) WHERE clause
string.

23. The program product of claim 20 further comprising:

instructions for replacing the FROM clause placeholder in the SQL template with the
FROM clause string;

instructions for replacing the JOIN clause placeholder in the SQL template with the
JOIN clause string; and

instructions for adding the (join) WHERE clause string to the (filter) WHERE clauses in the SQL template.

24. The program product of claim 20 further comprising:

- instructions for accepting a user submission of a field and a filter;
- instructions for sending a query to a database; and
- instructions for obtaining an output from the database.

25. A program product operable on a computer, the program product comprising:

- a computer-usable medium;

- wherein the computer usable medium comprises instructions comprising:

- instructions for determining if a plurality of parameters are on an added aliases list;

- responsive to the determination that the parameters are not on the added aliases list, instructions for running a clause generation program;

- determining if all of the parameters have been analyzed;

- responsive to the determination that all of the parameters have been analyzed, instructions for determining whether an optional where clause alias is on the added aliases list;

- responsive to the determination that the optional where clause alias is on the added aliases list, instructions for generating a (join) WHERE clause for the optional where clause alias; and

responsive to the determination that the optional where clause alias is on the added aliases list, instructions for adding the (join) WHERE clause to a (join) WHERE clause string.

26. The program product of claim 25 wherein the clause generation program comprises:

instructions for determining whether a SQL template has a FROM clause placeholder and determining whether a FROM clause table has been previously specified in the SQL template;

responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, instructions for generating a FROM clause for the table;

instructions for determining whether the SQL template has a JOIN clause placeholder and determining whether the FROM clause has been added; and

responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has not been added, instructions for generating a JOIN clause.

27. The program product of claim 26 wherein the clause generation program further comprises:

responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, instructions for adding the FROM clause to a FROM clause string; and

responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has not been added, instructions for adding the JOIN clause to a JOIN clause string.

28. The program product of claim 26 wherein the clause generation program further comprises:

instructions for generating the (join) WHERE clause;
instructions for adding the (join) WHERE clause to the (join) WHERE clause string;
instructions for adding an alias to the added aliases list; and
instructions for adding the optional where clause alias to an optional where clause aliases list.

29. The program product of claim 26 further comprising:

instructions for generating a SELECT clause;
instructions for generating a (filter) WHERE clause; and
instructions for generating an ORDER BY clause.

30. The program product of claim 26 further comprising:

instructions for replacing the FROM clause placeholder in the SQL template with the FROM clause string;
instructions for replacing the JOIN clause placeholder in the SQL template with the JOIN clause string; and
instructions for adding the (join) WHERE clause string to the (filter) WHERE clauses in the SQL template.

31. The program product of claim 25 further comprising:

instructions for accepting a user submission of a field and a filter;
instructions for sending a query to a database; and
instructions for obtaining an output from the database.

32. A program product operable on a computer, the program product comprising:

a computer-usable medium;

wherein the computer usable medium comprises instructions comprising:

a query program, wherein the query program queries a database using a query;

a query generation program, wherein the query generation program generates a query having only the necessary joins for the query; and

a clause generation program, wherein the clause generation program determines which clauses are necessary in the query.

33. The program product of claim 32, wherein the query generation program comprises:

instructions for determining if a plurality of parameters are on an added aliases list;

responsive to the determination that the parameters are not on the added aliases list,

instructions for running the clause generation program;

responsive to the determination that all of the parameters have not been analyzed,

instructions for determining whether an optional where clause alias is on the added aliases list;

responsive to the determination that the optional where clause alias is on the added aliases list, instructions for generating a (join) WHERE clause for the optional where clause alias; and

responsive to the determination that the optional where clause alias is on the added aliases list, instructions for adding the (join) WHERE clause to a (join) WHERE clause string.

34. The program product of claim 33, wherein the query generation program further comprises:

instructions for generating a SELECT clause;

instructions for generating a (filter) WHERE clause; and

instructions for generating an ORDER BY clause.

35. The program product of claim 33, wherein the query generation program further comprises:

instructions for replacing the FROM clause placeholder in the SQL template with the FROM clause string;

instructions for replacing the JOIN clause placeholder in the SQL template with the JOIN clause string; and

instructions for adding the (join) WHERE clause string to the (filter) WHERE clauses in the SQL template.

36. The program product of claim 32, wherein the clause generation program comprises:

instructions for determining whether a SQL template has a FROM clause placeholder and determining whether a FROM clause table has been previously specified in the SQL template;

responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, instructions for generating a FROM clause for the table;

instructions for determining whether the SQL template has a JOIN clause placeholder and determining whether the FROM clause has been added; and

responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has not been added, instructions for generating a JOIN clause.

37. The program product of claim 36, wherein the clause generation program further comprises:

responsive to the determination that the SQL template has the FROM clause placeholder and that the FROM clause table has not been previously specified in the SQL template, instructions for adding the FROM clause to a FROM clause string; and

responsive to the determination that the SQL template has the JOIN clause placeholder and that the FROM clause has not been added, instructions for adding the JOIN clause to a JOIN clause string.

38. The program product of claim 36, wherein the clause generation program further comprises:

- instructions for generating a (join) WHERE clause;
- instructions for adding the (join) WHERE clause to a (join) WHERE clause string;
- instructions for adding an alias to an added aliases list; and
- instructions for adding an optional where clause alias to an optional where clause aliases list.

39. The program product of claim 32, wherein the query program comprises:

- instructions for accepting a user submission of a field and a filter;
- instructions for sending the query to the database; and
- instructions for obtaining an output from the database.